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Nr.156 06 March 2018

Corrigendum: Announcement: Cesa News 150:1, published on 22 December 2017.

In order to ensure that our studies continue with planned performance, this correction has to be made in the following way: Number of the participant from the molecular side changed to one, instead of two.

Prof. Dr. Ahmet Ömer Koçak

Research Article

 $\underline{http://zoobank.org/References/6DF100FB-BB2A-4BEF-AFC2-7A4C326389A2}$

Preliminary list of the Lepidoptera of Posof district (Ardahan Province, NE Turkey)

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Abstract: Preliminary list of the Lepidoptera of Posof district (Ardahan Province, NE Turkey). *Cesa News* 156: 1-11, 8 figs.

In this paper, a preliminary list of the Lepidoptera recorded by the authors mainly in 2007-2010 from Posof district (Ardahan Province, NE Turkey) is published. Totally 245 species of 25 families are given in alphabetical order. To some species, short observational and faunistical notes are added. *Agonopterix arenella* is reported here as new to Turkey. Occurence of *Apotomis capreana* in Turkey is confirmed here after a long period. This paper is also the first step, before realizing new eco-faunistic, taxonomic and molecular studies planned in 2018.

Key words: Lepidoptera, fauna, Posof, Ardahan, Turkey

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Posof is a mountainous district (Ardahan Province, NE Turkey), located near the boundary of Georgia (Fig.1). Its territory can be considered in the Transcaucasus, as its fauna and flora are very near to the Caucasus Mountain Range biogeographically. The Lepidoptera fauna of Posof and its environments have been partly studied by the authors between the years 2007 and 2010. However, the results of these excursions couldnot be published in time. Within this year, new lepidopterological trips to the district are planned by the present authors, in order to realize and submit a new perspective within the framework of the taxonomic, faunistic, zoogeographic, and molecular program. For the time being, a simple list concerning the previously recorded 245 species of the 25 families is given below.

Concerning the numerical values of the Lepidoptera fauna of Ardahan Province, two publications are remarkable here: In the past, the authors listed 214 species for Ardahan Province (Koçak & Kemal, 2007). Later, the authors reported 390 lepidopteran, 223 other pterygot species from Ardahan Province (Koçak & Kemal, 2014).



Fig. 1 - Ilgar Mountain 2500-3000m (Posof, Ardahan Pr., NE Turkey), 19 7 2009, M. Kemal (Cesa)

Lepidoptera of the Posof District

Butterflies

In the district totally 80 species of the 6 families have been recorded. The species are alphabetically arranged under their families.

Argynnidae

- 1. Aglais urticae (Linnaeus,1758). Common.
- 2. Apatura ilia ([Denis & Schiffermüller],1775). Rare in the stream bed, where Populus, Salix grow.
- 3. Argynnis (Fabriciana) adippe (Rottemburg,1775)
- 4. Argynnis (Speyeria) aglaja (Linnaeus,1758)
- 5. Argynnis (s.str.) paphia (Linnaeus,1758)
- **6.** Boloria (Clossiana) euphrosyne (Linnaeus,1758) Together with the previous species inhabits in the woodland zone.

- 7. Boloria (Proclossiana) eunomia (Esper,[1799]). Once recorded from Ilgar Pass 2500m as photograph only, but never observed by the authors in the nature.
- 8. Boloria (s.str.) caucasica (Lederer, 1852). Inhabits in alpine meadows.
- 9. Brenthis hecate ([Denis & Schiffermüller],1775)
- 10. Euphydryas (Eurodryas) aurinia (Rottemburg,1775)
- 11. Inachis io (Linnaeus, 1758)
- 12. Issoria lathonia (Linnaeus, 1758). These four species inhabit also in woodland zone.
- 13. Limenitis (Azuritis) reducta Staudinger,1901. Its caterpillars feed on Lonicera in the woodland.
- 14. Limenitis (s.str.) camilla (Linnaeus, 1764). Sympatric with the previous species.
- 15. Melitaea (Cinclidia) phoebe (Goeze,1779)
- 16. Melitaea (Didymaeformis) interrupta Kolenati, 1846
- 17. Melitaea (Mellicta) athalia (Rottemburg,1775)
- 18. Melitaea (Mellicta) aurelia (Nickerl, 1850)
- 19. *Melitaea (s.str.) irka* Coutsis & Oorschot,2014. *Melitaea* species should be studied separately from taxonomical and molecular standtpoints.
- **20.** *Neptis* (*s.str.*) *rivularis* (Scopoli,1763). This is a rare woodland species. The authors recorded it from Akçay (Kağızman) previously (*cf.* Koçak & Kemal, 2012).
- 21. Vanessa (Cynthia) cardui (Linnaeus, 1758)
- 22. Vanessa (s.str.) atalanta (Linnaeus,1758)

Hesperiidae

- 23. Carcharodus (Lavatheria) lavatherae (Esper,[1783])
- 24. Erynnis (s.str.) tages (Linnaeus,1758)
- 25. Ochlodes venatus (Bremer & Grey,[1852])
- 26. Pyrgus alveus (Hübner,[1803])
- 27. Pyrgus armoricanus (Oberthür,1910)
- 28. Pyrgus jupei (Alberti,1967). An alpine species, like alveus.
- **29**. *Pyrgus sidae* (Esper,[1784])
- 30. Thymelicus lineolus (Ochsenheimer, 1808)
- 31. Thymelicus sylvestris (Poda,1761)

Lycaenidae

- 32. Callophrys chalybeitincta Sovinsky,1905. This species was first recorded by Koçak (1977a) in Turkey.
- 33. Callophrys rubi (Linnaeus,1758)
- 34. Cupido (Everes) argiades (Pallas,1771)
- 35. Lycaena (Alciphronia) alciphron (Rottemburg,1775)
- 36. Lycaena (Heodes) virgaureae (Linnaeus, 1758)
- 37. Lycaena (Palaeochrysophanus) candens (Herrich-Schäffer,[1845])
- 38. Lycaena (Thersamonia) thetis (Klug, 1834)
- 39. Lycaena (s.str.) phlaeas (Linnaeus,1761)
- 40. Maculinea arion (Linnaeus,1758)
- 41. Maculinea nausithous (Bergsträßer,[1779])
- 42. Maculinea rebeli (Hirschke,1904). These Maculinea species inhabit in mountinous meadows.
- 43. Plebejus (Lycaeides) argyrognomon (Bergsträßer, [1779])
- 44. Plebejus (Lycaeides) christophi (Staudinger, 1874)
- 45. Polyommatus (Aricia (Eumedonia)) eumedon (Esper,[1780]). This species was recorded by Koçak (1977a) from Posof.
- 46. Polyommatus (Aricia (Ultraaricia)) anteros (Freyer,[1838])
- 47. Polyommatus (Aricia (s.str.)) artaxerxes (Fabricius,1793)
- 48. Polyommatus (s.str. (Agrodiaetus (Admetusia))) eriwanensis (Forster,1960)
- 49. Polyommatus (s.str. (Cyaniris)) bellis (Freyer,[1842])
- 50. Polyommatus (s.str. (Lysandra)) bellargus (Rottemburg,1775)

- 51. Polyommatus (s.str. (Lysandra)) corydonius (Herrich-Schäffer,[1852])
- 52. Polyommatus (s.str. (Meleageria)) daphnis ([Denis & Schiffermüller],1775)
- 53. Polyommatus (s.str. (Plebicula)) amandus (Schneider,1792)
- 54. Polyommatus (s.str.) icarus (Rottemburg,1775)
- 55. Quercusia quercus (Linnaeus,1758)
- 56. Satyrium (Nordmannia) acaciae (Fabricius,1787)
- 57. Satyrium (Nordmannia) ilicis (Esper,[1779])
- **58**. *Satyrium (Strymonidia) spini* (Fabricius,1787)

Papilionidae

- 59. Iphiclides podalirius (Linnaeus, 1758)
- 60. Papilio (s.str.) machaon Linnaeus,1758
- 61. Parnassius (Driopa) nordmanni [Ménetries],[1850]. This alpine species inhabits at upper heights of Ilgar Mount.
- 62. Parnassius (s.str.) apollo (Linnaeus,1758). This species inhabits in the openings of the woodlands.

Pieridae

- 63. Anthocharis cardamines (Linnaeus, 1758)
- 64. Aporia (s.str.) crataegi (Linnaeus,1758)
- 65. Colias (Eriocolias) crocea (Fourcroy, 1785)
- 66. Colias (Eriocolias) thisoa Ménétriés, 1832. An alpine species.
- 67. Colias (Neocolias) aurorina Herrich-Schäffer,[1850]. An alpine, sub-alpine species.
- 68. Gonepteryx (s.str.) rhamni (Linnaeus, 1758)
- 69. Pieris (Artogeia) pseudorapae Verity,1908
- 70. Pieris (Artogeia) rapae (Linnaeus,1758)
- 71. Pontia edusa (Fabricius,1777)

Satyridae

- 72. Coenonympha (s.str.) symphita Lederer, 1870. An alpine, sub-alpine species.
- 73. Erebia aethiops (Esper,[1777])
- 74. Hipparchia (Parahipparchia) pellucida (Stauder,1924)
- 75. Hipparchia (s.str.) syriaca (Staudinger,1871)
- 76. Lasiommata maera (Linnaeus,1758)
- 77. Lasiommata megera (Linnaeus,1767)
- 78. Maniola (s.str.) jurtina (Linnaeus,1758)
- 79. Minois druas (Scopoli, 1763)
- 80. Pararge aegeria (Linnaeus,1758)

Moths

In the district totally 165 species of the 19 families have been recorded. The species are alphabetically arranged under their families.

Adelidae

All the species of this family are diurnal.

- 81. Adela violella ([Denis & Schiffermüller],1775)
- 82. Nemophora chrysochraon (Razowski,1978)
- 83. Nemophora degeerella (Linnaeus,1758)

84. Nemophora metallica (Poda,1761)

Arctiidae

Mostly nocturnal.

- 85. Arctia (Epicallia) villica (Linnaeus,1758)
- 86. Arctia (s.str.) caja (Linnaeus,1758)
- 87. Atolmis rubricollis (Linnaeus, 1758)
- 88. Callimorpha dominula (Linnaeus,1758). Also diurnal.
- 89. Euplagia quadripunctaria (Poda,1761). Also diurnal.
- 90. Lithosia quadra (Linnaeus,1758)
- 91. Manulea (Agenjoa) lurideola ([Zincken],1817)
- 92. Manulea (s.str.) complana (Linnaeus,1758)
- 93. Setina aurata (Ménétriés, 1832). Also diurnal.
- 94. Spiris striata (Linnaeus,1758). Also diurnal.

Cosmopterigidae

95. Pyroderces argyrogrammos (Zeller, 1847)

Ctenuchidae

96. *Dysauxes (Adauctis) punctata* (Fabricius,1781)

Drepanidae

97. Watsonalla binaria (Hufnagel,1767)

Gelechiidae

98. Isophrictis anthemidella (Wocke, 1871)

Geometridae

The members of this family are mostly nocturnal, and common in the woodland zone.

- 99. Alcis repandata (Linnaeus, 1758)
- 100. Aplocera plagiata (Linnaeus, 1758)
- 101. Biston betularius (Linnaeus, 1758)
- 102. Campaea margaritaria (Linnaeus, 1761)
- 103. Chiasmia clathrata (Linnaeus,1758)
- 104. Chloroclysta siterata (Hufnagel,1767)
- 105. Cidaria fulvata (Forster,1771). Also diurnal.
- 106. Colostygia fezae Hausmann,2011
- 107. Colotois pennaria (Linnaeus,1761)
- 108. Crocallis (s.str.) transcaucasica Wehrli,1940
- 109. Cyclophora porata (Linnaeus, 1767)
- 110. Epirrhoe alternata (Müller, 1764)
- 111. Epirrhoe tristata (Linnaeus,1758)
- 112. Erannis defoliaria (Linnaeus,1761)
- 113. Eulithis prunata (Linnaeus,1758)
- 114. Eulithis pyraliata ([Denis & Schiffermüller],1775)

- 115. Euphyia biangulata (Haworth,[1809])
- 116. Eupithecia alliaria Staudinger, 1870
- 117. Eupithecia denticulata (Treitschke,1828)
- 118. Geometra papilionaria (Linnaeus, 1758)
- 119. Gnophos (s.str.) ciscaucasius Rjabov,1964
- 120. Heliomata glarearia (Brahm,1791)
- 121. Hydriomena furcata (Thunberg,1784)
- 122. Idaea aversata (Linnaeus, 1758)
- 123. Idaea dimidiata (Hufnagel,1767)
- 124. Idaea rusticata ([Denis & Schiffermüller],1775)
- 125. Larerannis aurantiaria (Hübner, [1799])
- 126. Larerannis marginaria (Fabricius,1777)
- 127. Macaria liturata (Linnaeus, 1761)
- 128. Macaria wauaria (Linnaeus,1758)
- 129. Orthostixis cribraria (Hübner, [1799]). Also diurnal.
- 130. Ourapteryx persica Ménétriés, 1832
- 131. Philereme vetulata ([Denis & Schiffermüller],1775)
- 132. Rhodostrophia (Pellonia) vibicaria (Linnaeus, 1761)
- 133. Scopula rubiginata (Hufnagel,1767)
- 134. Scotopteryx aelptes (L.B.Prout,1937)
- 135. Scotopteryx bipunctaria ([Denis & Schiffermüller],1775). Also diurnal-crepuscular.
- 136. Scotopteryx chenopodiata (Linnaeus, 1758). Also diurnal-crepuscular.
- 137. Selenia lunularia (Hübner,1788)
- 138. Siona lineata (Scopoli,1763). Also diurnal-crepuscular.
- 139. Therapis flavicaria ([Denis & Schiffermüller],1775). Also diurnal-crepuscular.
- 140. Xanthorhoe (s.str.) montanata ([Denis & Schiffermüller],1775)

Lasiocampidae

- 141. Dendrolimus pini (Linnaeus, 1758)
- 142. Lasiocampa piontkovskii Sheljuzhko,1943
- 143. Lasiocampa quercus (Linnaeus, 1758)

Lymantriidae

- 144. Arctornis l-nigrum (Müller, 1764)
- 145. Calliteara pudibunda (Linnaeus,1758)
- 146. Euproctis chrysorrhoea (Linnaeus, 1758)
- 147. Leucoma salicis (Linnaeus,1758)
- 148. Lymantria monacha (Linnaeus, 1758)

Noctuidae

The members of this family are mostly nocturnal.

- 149. Acontia (Emmelia) trabealis (Scopoli,1763)
- 150. Acronicta (Subacronicta) megacephala (Fabricius, 1787)
- 151. Actinotia radiosa (Esper,[1804])
- 152. Agrochola (Anchoscelis) humilis (Fabricius, 1787)
- 153. Agrotis (s.str.) clavis (Hufnagel,1766)
- 154. Agrotis (s.str.) exclamationis (Linnaeus,1758)
- 155. *Allophyes (s.str.) asiatica* (Staudinger, 1892)
- 156. Amphipyra (Pyrois) cinnamomea (Goeze,1781)
- 157. Anaplectoides prasina (Goeze,1781)
- 158. Autographa bractea ([Denis & Schiffermüller],1775)

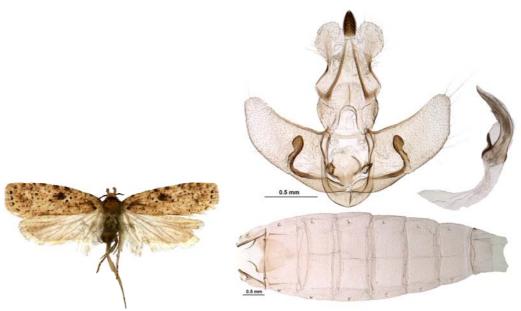
- 159. Autographa gamma (Linnaeus, 1758)
- 160. Autographa jota (Linnaeus,1758)
- 161. Axylia putris (Linnaeus,1761)
- 162. Brachylomia viminalis (Fabricius, 1777)
- 163. Catocala (s.str.) fraxini (Linnaeus,1758)
- 164. Catocala (s.str.) promissa ([Denis & Schiffermüller],1775)
- **165.** Chersotis (Cyrebia) adili (Koçak,1987): Diurnal, rare on alpine meadows. Described originally from Rize Province.
- 166. Chersotis (Cyrebia) anachoreta (Herrich-Schäffer,[1851]): Diurnal, rare on alpine meadows.
- 167. Chersotis (Cyrebia) luperinoides Guenée,1852: Diurnal, sympatric with previous species and common on alpine meadows.
- 168. Colocasia coryli (Linnaeus,1758)
- 169. Cosmia (Calymnia) trapezina (Linnaeus, 1758)
- 170. Cryphia (Bryoleuca) seladona (Christoph,1885)
- 171. Cryphia (Bryopsis) amasina (Draudt,1931)
- 172. Dasypolia (s.str.) templi (Thunberg,1792)
- 173. Dichagyris (Albocosta) musiva (Hübner,[1803])
- 174. Earias clorana (Linnaeus, 1761)
- 175. Euclidia glyphica (Linnaeus,1758)
- 176. Euxoa (s.str.) aquilina ([Denis & Schiffermüller],1775)
- 177. Euxoa (s.str.) birivia ([Denis & Schiffermüller],1775)
- 178. Euxoa (s.str.) montivaga Fibiger,1997
- 179. Euxoa (s.str.) nigricans (Linnaeus,1761)
- 180. Helicoverpa armigera (Hübner, [1808]). Also diurnal.
- 181. Heliothis peltigera ([Denis & Schiffermüller],1775). Also diurnal.
- 182. Hoplodrina octogenaria (Goeze,1781)
- 183. Hypena proboscidalis (Linnaeus,1758)
- 184. *Ipimorpha subtusa* (Fabricius,1787)
- 185. Lygephila (s.str.) craccae (Fabricius,1787)
- 186. Melanchra persicariae (Linnaeus, 1761)
- 187. Mythimna (Aletia) vitellina (Hübner,[1808])
- **188.** *Mythimna (Hyphilare) albipuncta* (Fabricius, 1787)
- 189. Polia nebulosa (Hufnagel, 1766)
- 190. *Polymixis (s.str.) xanthomista* (Hübner,[1819])
- 191. Polypogon tarsipennalis (Treitschke, 1835)
- 192. Pyrrhia umbra (Hufnagel, 1766)
- 193. Schinia imperialis (Staudinger, 1871). Also diurnal.
- 194. Tyta luctuosa ([Denis & Schiffermüller],1775). Also diurnal.
- 195. Xestia (Megasema) c-nigrum (Linnaeus,1758)
- 196. Xestia (Megasema) triangulum (Hufnagel,1766)

Notodontidae

- 197. Clostera curtula (Linnaeus, 1758)
- 198. Furcula furcula (Linnaeus,1761)

Oecophoridae

- 199. Agonopterix arenella ([Denis & Schiffermüller],1775). Nocturnal. New for the fauna of Turkey (Figs. 2, 3).
- 200. Hypercallia citrinalis (Scopoli, 1763). Also diurnal.



Figs. 2, 3 - Agonopterix arenella. Upperside of male. Male genitalia and abdominal skin. GP2665. Turkey, Ardahan Prov., Posof 1460m, 12 8 2007, M. Kemal (Cesa)

Pterophoridae

201. *Platyptilia gonodactyla* ([Denis & Schiffermüller],1775). This nocturnal species was also reported by the authors from Bahçesaray (Van Prov. East Turkey). GP2550 \circlearrowleft , GP2554 \circlearrowleft , GP2557 \circlearrowleft (Kemal & Koçak, 2017). A male from Posof (1460m), was captured on 11 7 2007, leg. M. Kemal & A.Koçak, GP2097 \circlearrowleft .

202. Stenoptilia arida (Zeller, 1847). Nocturnal (Fig. 4)

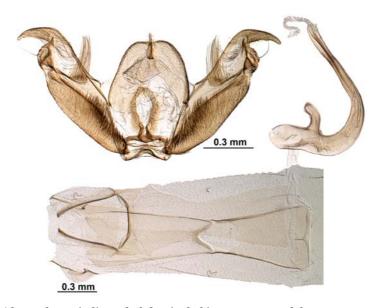


Fig. 4 – *Stenoptilia arida*. Male genitalia and abdominal skin. GP2733. Ardahan Prov., Posof 1460m, 11 7 2007, M. Kemal (Cesa)

Pyralidae

203. Anania (Opsibotys) fuscalis ([Denis & Schiffermüller],1775)

204. Catoptria colchicella (Lederer,1870)

205. Catoptria incertella (Herrich-Schäffer,[1852])

- 206. Dioryctria sylvestrella (Ratzeburg, 1840)
- 207. Epascestria pustulalis (Hübner,[1823])
- 208. Eucarphia vinetella (Fabricius,1787)
- 209. Eurhodope (s.str.) rosella (Scopoli,1763)
- 210. Homoeosoma sinuellum (Fabricius, 1794)
- 211. *Hypsopygia costalis* (Fabricius,1775)
- 212. Lymphia chalybella (Eversmann, 1844)
- 213. Nyctegretis lineana (Scopoli,1786)
- 214. Oncocera semirubella (Scopoli,1763)
- 215. Patania ruralis (Scopoli,1763)
- 216. Pyrausta cingulata (Linnaeus,1758)
- 217. Udea ferrugalis (Hübner,1796)
- 218. *Udea olivalis* ([Denis & Schiffermüller],1775)

Saturniidae

219. Saturnia (Heraea) pavonia (Linnaeus,1758)

220. Saturnia (Perisomena) caecigena Kupido,1825

Sphingidae

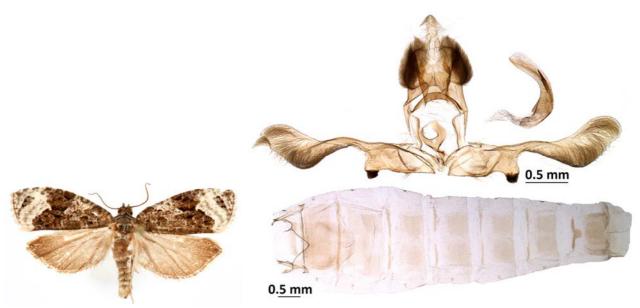
- 221. Hemaris (s.str.) syra (Daniel,1939). Diurnal.
- 222. Hyles livornica (Esper,[1780])
- 223. Laothoe populeti (Bienert,[1870])
- 224. Macroglossum stellatarum (Linnaeus, 1758). Diurnal.

Tortricidae

225. Agapeta hamana (Linnaeus, 1758)

226. *Apotomis capreana* (Hübner,[1817]) (Figs. 5,6)

This species was reported by Rebel (1908) from "for the first time for Turkey. After 110 years, the presence of this species in Turkey is confirmed here. The Posof record is also new to Ardahan Province (GP2886 ?).



Figs. 5, 6 – *Apotomis capreana*. Upperside of male (top). Male genitalia, GP2886. Turkey, Ardahan Prov. Posof, M. Kemal (Cesa)

- 227. Agapeta zoegana (Linnaeus,1767)
- 228. Celypha rivulana (Scopoli,1763). Diurnal-nocturnal.

(Fig.7)

- 229. Croesia holmiana (Linnaeus,1758)
- 230. Eana (Eutrachia) goiiana (Linnaeus,1761)
- 231. Endothenia marginana (Haworth,[1811])
- 232. Epiblema foenellum (Linnaeus,1758)
- 233. Hedya salicella (Linnaeus,1758)
- 234. Notocelia incarnatana (Hübner,[1800])
- 235. Olethreutes (s.str.) arcuana (Linnaeus, 1761). Diurnal-nocturnal (Fig. 8)
- 236. Phtheochroa purana (Guenée, 1845)
- 237. Thiodia citrana (Hübner,[1799]). Diurnal-nocturnal.
- 238. Tortrix viridana (Linnaeus, 1758). Diurnal-nocturnal; also a serious pest.



Figs. 7,8 - Celypha rivulana. At rest, Posof 1450m, on 1 7 2010 (left); Olethreutes (s.str.) arcuana. At rest. Posof 1450m, 12 7 2007 (right), M. Kemal (Cesa)

Yponomeutidae

239. Plutella xylostella (Linnaeus,1758). Diurnal-nocturnal. Common.

Zygaenidae

The family members are diurnal. Several species can be found sympatrically (Kemal & Koçak, 2010).

- 240. Zygaena (Agrumenia) armena Eversmann, 1851. Confined to NE Turkey. Uncommon.
- 241. Zygaena (Agrumenia) carniolica (Scopoli,1763). Common.
- 242. Zygaena (Agrumenia) loti ([Denis & Schiffermüller],1775). Common.
- 243. Zygaena (Mesembrynus) purpuralis (Brünnich,1763). Common.
- 244. Zygaena (s.str.) dorycnii Ochsenheimer,1808. This species was reported by Koçak (1977b) from Posof.
- 245. Zygaena (s.str.) lonicerae (Scheven,1777). This species was reported by Koçak (1977b) from Posof.

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